Personal information

Surname(s) / First name(s)	**LENGAGNE, Sébastien**
Email(s)	sebastien.lengagne@uca.fr
Nationality(-ies)	French
Date of birth	May 2d 1983
family	civil partnership (2009), one daughter (2012), one son (2017)
website	http://cloud.ip.univ-bpclermont.fr/~lengagne/

Work experience

sept 2013 - now	Associate professor in the MACCS team (Modeling, Autonomy and Control in Complex Systems), research team of Institut Pascal (UMR6602 CNRS / UBP / IFMA) and in Polytech Clermont, Departement of physics and department of Electrical Engineering. Aubière, FRANCE
sept.2012 - aug 2013	Post-doctoral position in the EXPLORE team of the LIRMM, working within the R.HEX project located at the IUT of Beziers on *the conception and realization of the control of hexapod robots*, Beziers, FRANCE
nov.2011 - july 2012	Post-doctoral position in the Humanoids and Intelligence Systems Lab of the Institute for Anthropmatics in the Karlsruher Institut für Technologie (KIT) on *the transposition to human motions to the ARMAR-IV Humanoid robot*, Karlsruhe, GERMANY
nov.2009 - oct.2011	Post-doctoral position at the CNRS-AIST JRL(Joint Robotics Laboratory), UMI3218/CRT on the *"Generation of optimal dynamic multi-contact motion for humanoid robots and human avatars"* ,Tsukuba, JAPAN
oct.2006 - oct.2009	Ph-D Candidate in robotics in the LIRMM (Montpellier Laboratory of Informatics, Robotics, and Micro-electronics) on the *"Planning and replanning of safe motions for humanoid robots"* , Montpellier, FRANCE
may - sept. 2006	Training session for M2 degree in the CNRS-AIST JRL(Joint Robotics Laboratory), UMI3218/CRT about *"the optimization of multi-contact motions for the HRP-2 Robot"*,Tsukuba, JAPAN
april - june 2003	Training session for DUT (University Degree of Technology equivalent to HND) in the IEMN(Institute of Electronics, Microelectronics and Nanotechnology) on the production of a 7.6Ghz clock, Lille FRANCE

Education

2006 - 2009	Ph-D in robotics in the LIRMM (Montpellier Laboratory of Informatics, Robotics, and Micro-electronics) on the *"Planning and replanning of safe motions for humanoid robots"*
2006	M2 Recherche : Automatique et Systèmes de Production, parcours robotique à l'École centrale de Nantes. Study of Automatics, Optimization, Robotics, and Computer Science

2005 M1 :Automatique et Systèmes Électriques à l'Université Lille 1. Study of Automatics, Computer Science and Electrical Systems

2004 Licence Ingénierie Electrique à l'Université Lille 1 - equivalent to Bachelor Degree. Study of Automatics, Computer Science and Electrical Systems

2003 DUT GEII (Diplôme Universitaire de Technologie Génie Électrique et Informatique Industrielle - equivalent to HND) option électronique à l'Université Lille 1. Study of Automatics, Electronics, Computer Science and Electrical Systems

2001 Baccalauréat Sciences et Techniques Industrielle, génie électronique.

Personal skills and competences

Mother tongue(s) **French**

Other language(s)

Self-assessment
European level(*)

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	C1	C1
Spanish	A2	A2	A2	A2	A2
Japanese	A2	A1	A2	A1	A1

(*) *Common European Framework of Reference (CEF) level*

Personal skills

programming C/ C++, Matlab, Scilab, Windows and Linux, ROS, LateX

scientific humanoid robots (modeling, control and experiment), optimization, interval analysis

Teaching lectures

2022- now Mobile Robots : Modeling, localization, mapping, control, ...(equivalent to M2 students)

2020- now Humanoid Robots : Introduction to humanoid robots: modeling, walking, balance, ... (M2 students)

2020- now Robotics : Modeling, planning and control of serial manipulator robots. (equivalent to B3 students)

2018- now Robot programming : initiation to ROS (equivalent to B3 and M1 students)

2017- now programming : C++, cmake. (equivalent to M1 students)

2014- now automatics : modeling, identification and control of linear SISO systems in continuous and discrete space. (equivalent to B3 and M1 students)

2014- now Project : management of second and third year students on school and industrial projects. Some examples can be found here

online I broadcast most of my lectures here (in french).

Teaching responsabilities

2021-now Vice head of the Electrical Engineering Department of Polytech Clermont

2021-now head of the *Power conversion and Robotics* option in the Electrical Engineering Department of Polytech Clermont

2021-now the international relationship with North Europe for the Polytech Clermont School

2019-now international relationships and abroad internship of the fourth year students of the Electrical Engineering Department of Polytech Clermont

2015-2019 fourth year students of the Electrical Engineering Department of Polytech Clermont

Research interests

My research interests focus on the generation of generic and safe motions for complex systems such as humanoid robots, human avatars, hexapod robots,...

Selected Publications

2020 **S. Lengagne**, R. Kalawoun, F. Bouchon, Y. Mezouar *Reducing pessimism in Interval Analysis using Bsplines Properties: Application to Robotics.* Reliable Computing Volume 27 pp. 63-87, July 2020

2020 M. Mounsif, **S. Lengagne**, B. Thuilot, L. Adouane *BAM ! Base Abstracted Modeling with Universal Notice Network:Fast Skill Transfer Between Mobile Manipulators.* 7th 2020 International Conference on Control, Decision and Information Technologies

2013 **S. Lengagne**, J.Vaillant, A. Kheddar, E. Yoshida, *"Generation of Whole-body Optimal Dynamic Multi-Contact Motions"*: International Journal of Robotics Research ,vol. 32 no. 9-10 1104-1119

2011 **S. Lengagne**, N. Ramdani, P. Fraisse, *"Planning and Fast Re-Planning Safe Motions for Humanoid Robots"*: IEEE Transactions on robotics vol. 27 pages 1095-1106

2009 **S. Lengagne**, N. Ramdani, P. Fraisse, *" Planning and Fast Re-Planning of Safe Motions for Humanoid Robots : Application to a Kicking Motion"*: IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Oct. 11-15, 2009, St Louis, MO, USA. **Finalist of RoboCup Best Paper Award.**

The list of all my publications is available here.

Ph-D supervising

2020-now Samuel Beaussant *Skill transfert using abstract state in Reinforcement Learning*

2019-now Mélodie Hani Daniel *Multimodal control for humand-humanoid robot interaction*

2017-2020 Mehdi Mounsif *Exploration of Teacher-Centered and Task-Centered paradigms for efficient transfer of skills between morphologically distinct robots*

2015-2019 Rawan Kalawoun *Motion planning of multiple robotic system for air-plane stripping*

Press release

2012 BBC: *"Man and robot linked by brain scanner"*

2012 New scientist: *"Robot avatar body controlled by thought alone"*

2011 **Reuters**: *"Humanoid Robots find hurdles can help"*

2010 New scientist: *"Robots learn to walk like a senior citizen"*

Personal interests

Table Tennis president (2002 to 2005), internet manager (2007 to 2009 and 2019 to now).

DIY masonry work, interior design , 3D printing (some of my creations

Nature gardening, walking, fishing

Leisure cinema (comedy, science-fiction), comics, video games